

# The first record of *Trichocera (Saltrichocera) annulata* (Diptera: Trichoceridae) in Romania, with additional data on *Trichocera (Saltrichocera) maculipennis*

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## Abstract

The Romanian Trichoceridae fauna is poorly known. *Trichocera (Saltrichocera) annulata* Meigen, 1818 and *Trichocera (Saltrichocera) maculipennis* Meigen, 1818 are amongst the most widespread species in Europe, but the former species was not recorded from Romania so far and the latter has only 120 years old records. Herein we report *T. (S.) annulata* from Romania for the first time and bring new records for *T. (S.) maculipennis*. A total of 18 *Trichocera* species are known from Romania at the moment.

## Keywords

Distribution, faunistic note, Tipulomorpha, winter gnats

The Trichoceridae family (also known as winter gnats or winter crane flies) comprises Tipulomorpha Diptera which are usually linked to cold temperatures, most of them being active even in the middle of winter. The representatives of Trichoceridae family bear a set of features that are not found in other Tipulomorpha: the presence of ocelli, the vein A2 very short, in most of the cases abruptly bent towards the wing margin and the ovipositor curved downwards (Freeman 1950). A significant number of species can be found in autumn, winter and spring, sometimes large

numbers of males (consisting of one species) can be seen swarming in the afternoon, waiting for the females to join them for mating. Some species occur in basements, caves, mines and other cold and darkened places (Freeman 1950, Ujvárosi and Krzemińska 2002). The larvae can be found in decomposed vegetable matter (Freeman 1950).

From Europe, 2 genera were reported: *Cladoneura* Scudder, 1894 (= *Diasosma* Bergroth, 1913) and *Trichocera* Meigen, 1803 (Kolcsár et al. 2018). The widespread genus *Trichocera* comprises around 110 species (from a total of about 160 Trichoceridae species), distributed mainly in the Holarctic region (Petrašiūnas and Kvifte 2016). In Romania, this Diptera family was studied by Ujvárosi and Krzemińska (2002), who recorded 13 species of Trichoceridae new to Romania. Furthermore, *Trichocera (Metatrichocera) ticina* Starý & Poděnas, 1995, a rare species, was recently reported by Kolcsár et al. (2018).

*Trichocera (Saltrichocera) annulata* Meigen, 1818 is probably the most widespread winter gnat species in the world (Dahl and Alexander 1976, Krzemińska and Brunhes 1991, Krzemińska 1999, Petrašiūnas and Visarcuk 2007). It is characterized by a distinctly banded abdomen and unspotted wings, with the d cell broad, pentagonal (Freeman 1950, Krzemińska 1999). *Trichocera (Saltrichocera) annulata* shows an unusually high tolerance to warmer temperatures, having a wide distribution in Africa (Ethiopia, Algeria), Asia Minor and the Mediterranean region as well (Dahl and Alexander 1976, Petrašiūnas and Kvifte 2016). So far, it was recorded from North-America, Asia, Africa, most of the European countries (Dahl and Alexander 1976, Krzemińska and Brunhes 1991, Krzemińska 1999), but not from Romania, until now. The species was introduced to Australia (Alexander 1926) and New Zealand (Edwards 1928).

We examined 3 specimens from Romania, as follows: 1♂ România: Constanța county: Agigea (near): The Natural Reserve "Marine sand dunes of Agigea", 1–8.03.2019, 44.086562°N/28.641887°E, YPT (yellow pan traps), leg. Pintilioiae Alexandru; 2♂ România: Harghita county: Ditrău, 26.12.2017, 46.807155°N/25.504679°E, leg. Kolcsár L.-P. Later specimens were collected by hand from the wall of a cellar together with *Trichocera (Saltrichocera) maculipennis* Meigen, 1818.

*T. (S.) maculipennis* shows similar distribution pattern as *T. (S.) annulata* (Dahl and Alexander 1976, Potocka and Krzemińska 2018). The species is characterized by spotted wings, with uniform or banded abdomen (Volonterio et al. 2013, Petrašiūnas and Podenas 2017). It also tolerates warmer temperatures and occurs from Arctic to the Mediterranean region, from Greenland to Japan and was also introduced to some Southern Hemisphere Islands (Dahl and Alexander 1976, Volonterio et al. 2013, Driauach et al. 2015, Petrašiūnas and Podenas 2017, Potocka and Krzemińska 2018). The only known record from Romania is from Tășnad (Tasnád), reported 120 years ago by Thalhammer (1900).

Here we report additional records: 12 specimens from Romania, as follows: 5♂ and 3♀ România: Harghita county: Ditrău, 26.12.2017, 46.807155°N/25.504679°E,

leg. Kolcsár L.-P.; 4♂, same location, 22.12.2017, leg. Kolcsár L.-P. Specimens were collected by hand from the wall of a cellar together with *T. (S.) annulata*.

All specimens are stored in 98% alcohol and deposited in the private collection of the second author.

At the moment, the data on Romanian Trichoceridae is scarce and contains records of 18 species. Increasing the sampling effort by using proper collecting techniques (sweeping the vegetation with an entomological net, using malaise traps and light traps) will certainly reveal new locations and probably new species of Trichoceridae for Romania.

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